

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested.

Currently, claims 1-9 and 11-17 are pending in this application.

Allowable Subject Matter:

The Office Action indicated that claims 2-5 and 9 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 2-5 and 9 have been maintained herein. Newly added claim 16 requires the limitations of claim 9 and its base claim 8 rewritten in independent form. Applicant notes, however, that “means” phraseology has been deleted from claims 8 and 9 as well as from all other claims.

Rejection Under 35 U.S.C. §102:

Claims 1, 6-8 and 10-15 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Kliman et al (U.S. ‘089, hereinafter “Kliman”). Applicant respectfully traverses this rejection.

For a reference to anticipate a claim, each element must be found, either expressly or under principles of inherency, in the reference. Each element of the claimed invention is not found in Kliman. For example, Kliman fails to disclose “a reversing detector for detecting reversing of a rotation direction of the rotor occurring on its way to the target position; and a current supply phase holder for fixing the current supply phase for which current supply is effected by the current supply controller to a preceding current supply phase when the reversing detector has detected reversing,” as required by independent

claim 1 and its dependents. According to this claimed limitation, when a rotor's reverse rotation is detected, a current supply phase is fixed to a proceeding current supply phase, to thereby surely hold the rotor.

Page 3, last paragraph of the Office Action apparently alleges that col. 9, lines 16-32 of Kliman teaches or suggests the above claimed limitation. Applicant respectfully disagrees with this allegation. Col. 9, lines 16-32 discloses the following:

“In another aspect of the present invention, a method is provided for starting the SRM when it is stopped in a ‘dead zone’ created by a faulted phase. As used herein, the term ‘dead zone’ is a region in which positive torque production for rotation in a specified direction cannot be generated by any of the intact phases. However, the intact phases can generate negative torque in a dead zone. Hence, according to the present invention, if the rotor is stopped in a dead zone, one or more intact phases are used by control means 22 to generate negative torque, thereby rotating the SRM in the direction opposite to the specified or desired direction for a short time until the rotor is outside the dead zone. When the rotor is out of the dead zone, the intact phases are used to generate torque for rotation in the desired direction. Once moving, the rotational inertia of the rotor will carry it through the dead zones of the faulted phase(s).”

This portion of Kliman merely discloses supplying current to a non-faulted phase, when a rotor is stopped in a “dead zone” created by a faulted phase. One or more of the non-faulted phases may generate a negative torque to rotate the rotor in a direction opposite to a specified or desired direction for a short time until the rotor is outside of the dead zone. Once outside of the dead zone, the non-faulted phases generate torque for rotation in the specified or desired direction. However, this portion of Kliman (and all other portions) fails to disclose or even suggest fixing a current supply phase to a proceeding current supply phase upon detection of a reverse rotation as required by claim 1 and its dependents.

Independent claim 8 now requires, *inter alia*, “the controller sets, determining from a predetermined switching order of the current supply phases as the first current supply phase, a phase to which switching should be made from the disconnection-detected phase, if the disconnection detector has detected a disconnection in a winding of one phase when the feedback control is started.” Independent claim 8 thus relates to a controller that starts current supply to one of the normal phases from the disconnection-detected phase based on a predetermined switching order of current supply phases when a disconnection is detected. Kliman fails to disclose or suggest setting the phase to which switching should be made from the disconnection-detected phase based on the predetermined switching order of the current supply phases.

Accordingly, Applicant respectfully submits that claims 1, 6-8 and 10-15 are not anticipated by Kliman and respectfully requests that the rejection of these claims under 35 U.S.C. §102(b) be withdrawn.

New Claims:

New claims 16-17 have been added to provide additional protection for the invention. As noted above, claim 16 corresponds to the subject matter presented in original claims 8 and 9 and is therefore allowable. Claim 17 depends from claim 8 and is therefore allowable for at least the reasons discussed above with respect to base claim 8. Claim 17 further requires “wherein setting the phase to which switching should be made from the disconnection-detected phase maximizes the number of times that current supply phase switching is performed until the disconnection detected phase is selected as a current supply phase after feedback control is started.” This feature is supported by, for example, the paragraph bridging pages 56 and 57 of the originally-filed specification.

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Through this feature, the disconnection-detected phase may be selected last as the current supply phase. As a result, a rotor can be rotated to a higher rotation speed in a shorter time.

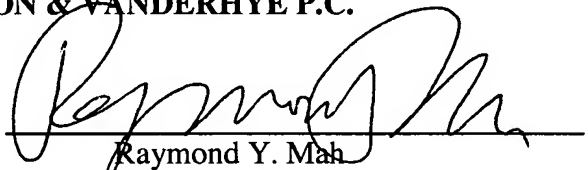
Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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